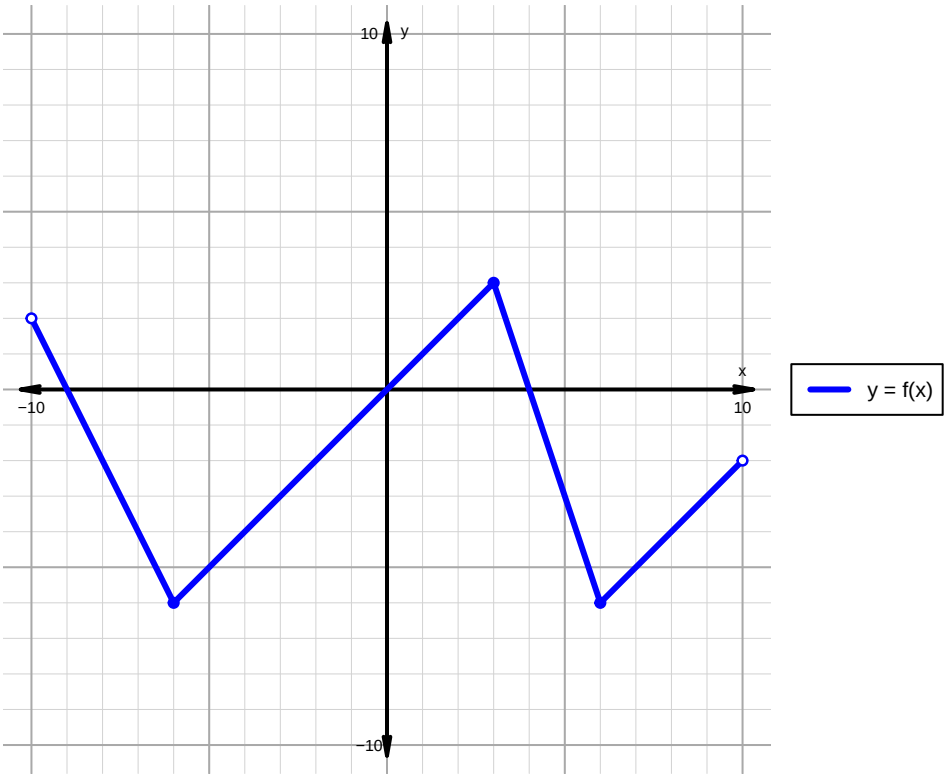
Name: Date:

Intervals, Transformations, and Slope Solution (version 68)

1. The function f is graphed below.



Indicate the following intervals using interval notation. Remember, you can use $\cup$ between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	$(-10,-9)\cup(0,4)$
Negative	$(-9,0)\cup(4,10)$
Increasing	$(-6,3)\cup(6,10)$
Decreasing	$(-10,-6)\cup(3,6)$
Domain	$(-10,10)$
Range	$(-6,3)$

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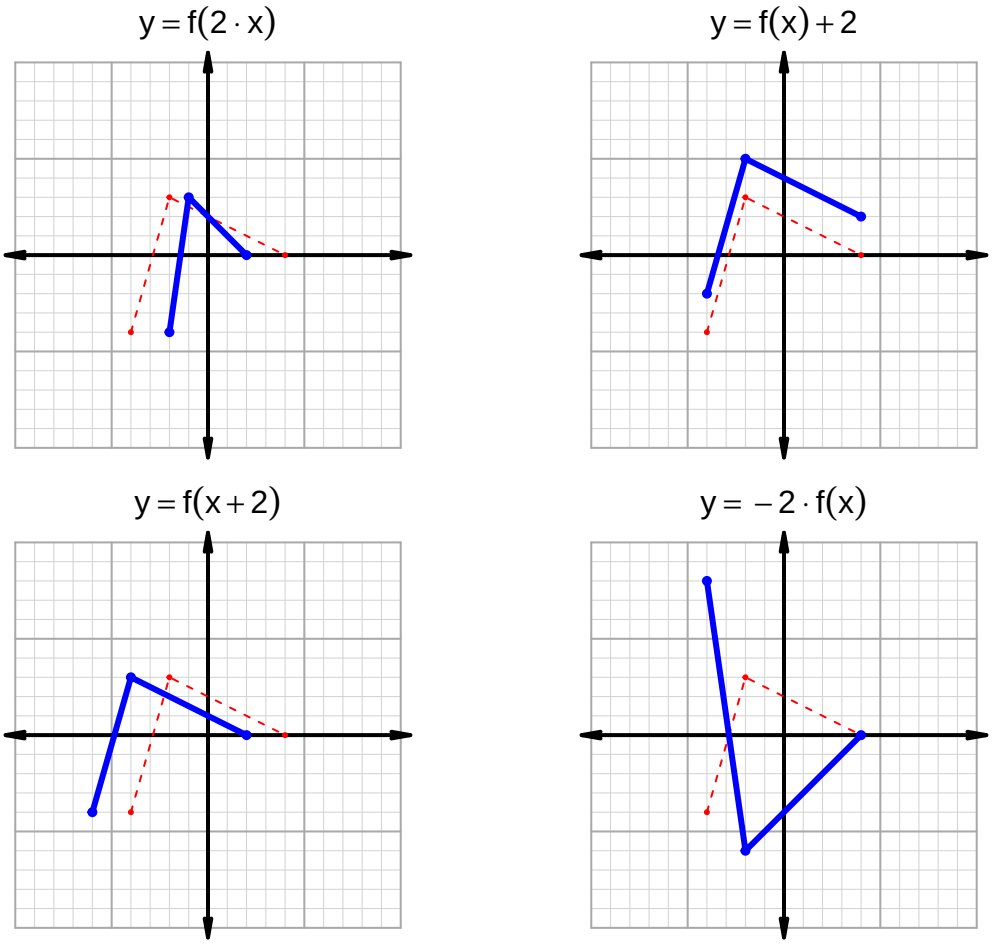
2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2)-g(x_1)}{x_2-x_1}$ to find the average rate of change between $x_1 = 32$ and $x_2 = 56$. Express your answer as a reduced fraction.

x	$g(x)$
32	96
56	87
87	32
96	56

$\frac{g(56)-g(32)}{56-32} = \frac{87-96}{56-32} = \frac{-9}{24}$

The greatest common factor of -9 and 24 is 3. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{-3}{8}$$